

## Appendix C

## Summary of Changes Since the *State Energy Price and Expenditure Report 1997*

Revisions that are incorporated into the Combined State Energy Data System (CSEDS) and the *State Energy Price and Expenditure Report (SEPER)* since its previous release in July 2000 are summarized in this appendix. Users of the CSEDS data files, available on EIA's internet site (<ftp://ftp.eia.doe.gov/pub/state.prices/data/>), may notice data changes that do not appear in the report due to the level of rounding in the published tables. All full-precision data changes are covered in this appendix.

Price revisions occur for several reasons: new price series are added; data sources for prices change; price estimation methodologies are revised or price assignment and estimation procedures are updated; data entries are corrected; or consumption estimates are revised. The first four kinds of changes affect State-level and U.S. prices directly. The fifth, a revised consumption value, affects only the State prices that are estimated as consumption-weighted averages of adjacent States' data and, similarly, affects all the consumption-weighted U.S. average prices.

Consumption estimates used to calculate expenditures in *SEPER* are also taken from CSEDS, as published in the *State Energy Data Report 1999, Consumption Estimates (SEDR)*, which contains full documentation of the consumption estimation procedures. Since energy expenditure estimates depend on both the price and consumption estimates (including the consumption adjustments for process fuel and intermediate products), revision of either or both may cause revisions to the expenditures series.

### Coal

**Residential Sector, 1996 and 1997.** A review of the adjacent-State price assignments for States with no reported residential coal prices led to revisions in estimated prices for residential coal in Idaho, Maine, and North Dakota in 1996 and 1997. The revisions are by less than a dollar per million British thermal units (Btu), with the exception of North Dakota's \$3.06-per-million Btu increase in 1997. All the changes can be seen in the *SEPER* tables. The price revisions cause small changes in total coal expenditures for the three States as well as small changes in the U.S. average residential and total coal price and expenditures.

### Coal Coke Imports and Exports

After a review of EIA's data sources as explained in *SEDR 1999* Appendix G, the average price for coal coke exported from the United States is revised for 1991 and the average prices for coal coke imports in 1991 through 1994 are also revised. The coal coke export price increases from \$2.74 to \$2.86 per million Btu in 1991. The largest imports price increase is from \$3.04 to \$3.22 per million Btu in 1993. Quantities of coal coke imports and exports were revised as shown in *SEDR 1999* and cause large increases in the expenditures estimates for 1991 through 1997. The largest increase in coal coke export expenditures is from \$50 million to \$91 million in 1995 and the largest increase in coal coke import expenditures is from \$155 million to \$325 million in 1995.

## Natural Gas

**All Sectors, 1995.** Small changes in industrial natural gas consumption as described in the *State Energy Data Report 1999 (SEDR 1999)* Appendix G cause revisions in the industrial and total expenditures for natural gas in Alaska, California, Nevada, Washington, and the Nation as a whole for 1995. The changes are too small to be seen in *SEPER* tables due to the level of rounding, but they may be noticed in the full-precision data files available from EIA's internet site at <ftp://ftp.eia.doe.gov/pub/-state.prices/data/>. The revision in Nevada also affected the calculated factor used to convert cubic feet to British thermal units. The revised factor has a small effect on Nevada's natural gas prices and expenditures in all sectors.

**Industrial Sector, 1996.** Small changes in industrial natural gas consumption as described in the *SEDR 1999* Appendix G cause revisions in the industrial and total expenditures for natural gas in Delaware, Georgia, New Jersey, Pennsylvania, Virginia, West Virginia, and the national total in 1996. The changes are too small to be seen in *SEPER* tables due to the level of rounding, but they may be noticed in the full-precision data files available from EIA's internet site.

**All Sectors, 1997.** Revisions to natural gas prices, as published in the *EIA Historical Natural Gas Annual, 1930 through 1999*, occur in all sectors of Kansas, New Mexico, and Oklahoma in 1997. The largest price change is in the commercial sector of New Mexico, where natural gas increases from \$3.92 to \$4.33 per million Btu, and most revisions are by less than a penny per million Btu. These price changes, combined with consumption revisions described in *SEDR 1999* Appendix G, cause generally small revisions to expenditures for natural gas. The only large revision occurs in New Mexico's industrial natural gas expenditures, which decrease from \$83 million to \$46 million in 1997.

## Petroleum

### Aviation Gasoline

**Transportation Sector, 1996 and 1997.** Although there are no revisions to jet fuel prices, the consumption estimates used to calculate expenditures were revised for 1996 and 1997, as described in the *EIA SEDR*

1999 Appendix G. Although the U.S. consumption and expenditures remained unchanged, the revisions in estimates of the States' military-use portion of total aviation gasoline caused all States' expenditures to be revised by less than 0.5 percent in 1996 and 1997.

### Liquefied Petroleum Gases

**Industrial and Transportation Sectors, 1994.** Prices for liquefied petroleum gases (LPG) are based on data published in EIA's *Petroleum Marketing Annual*, although some of those data are withheld to avoid disclosure of proprietary information. The methodology for estimating withheld prices in 1994 in the transportation and industrial sectors of States in Petroleum Administration for Defense District (PADD) I is revised in this edition of *SEPER*. (See map of PADDs in Section 1 of the documentation on page 331.) Transportation prices and the resulting expenditures in the six New England States decrease by 2 percent, and industrial prices and expenditures decrease by 4 percent. Other East Coast States' industrial LPG prices and expenditures decrease by less than 1 percent, with the exception of Virginia. Virginia's prices and expenditures are also affected by a correction to the general sales tax in CSEDS from 3.5 percent to 4.5 percent.

**Industrial and Transportation Sectors, 1995.** California and Hawaii LPG expenditures by the transportation sector in 1995 are affected by consumption revisions described in *SEDR 1999* Appendix G. Industrial prices and expenditures for LPG are affected by the new methodology for estimating withheld data. LPG prices and expenditures for States in PADD IC increased and for States in PADD II decreased by less than 1 percent. Virginia's industrial prices and expenditures are affected by the general sales tax revision described above.

**All Sectors, 1996 and 1997.** Prices in the transportation and commercial sectors are revised for 46 States 1996 and 1997 by the addition of general sales taxes mistakenly omitted in the previous edition of *SEPER*. Prices for Virginia in all sectors are further revised by a correction in the general sales tax from 3.5 percent to 4.5 percent. Prices for Arkansas and Utah in 1997 are slightly revised in the industrial and residential sectors by the incorporation of small tax increases that occurred mid-year in both States.

In 1997 the methodology change for estimating withheld data in the transportation sector causes prices for States in PADD IC to decrease by 4 percent. The methodology change causes prices in the industrial sector of States in PADD IB and IC to be revised by less than 1 percent.

Expenditures for LPG in all sectors in 1996 and 1997 are further affected by the LPG consumption revisions described in *SEDR 1999* Appendix G. The largest revisions occur in 1997 where preliminary estimates used in the previous edition are replaced by final data.

### **Lubricants**

**Industrial and Transportation Sectors, 1997.** The U.S. Department of Commerce, Bureau of the Census, revised the value of lubricants shipments for 1997. The shipments data are used to estimate a national average price for lubricants in *SEPER* that is assigned to the industrial and transportation sectors of all States. The lubricants price for all States and sectors in 1997 is revised from \$17.86 to \$17.98 per million Btu and all resulting expenditures are increased proportionally by 0.6 percent.

### **Motor Gasoline**

**All Sectors, 1983 through 1997.** The methodology for estimating motor gasoline prices in all consuming sectors (commercial, industrial, and transportation) was revised for the District of Columbia in 1983 through 1997 and for Maryland in 1985 through 1997. The price revisions are by as much as 10 percent for the District of Columbia and 7 percent in Maryland in 1995 and by as little as less than 0.1 percent for the District in 1989 and for Maryland in 1986.

**All Sectors, 1994 through 1997.** Beginning with 1994 prices, the factor used to convert dollars per barrel to dollars per British thermal unit (Btu) is revised to take into account the increased use of motor gasoline additives. These new factors cause all States' motor gasoline prices to increase by 0.4 percent in 1994, 0.7 percent in 1995 and 1996, and 0.8 percent in 1997. The same adjusted conversion factors were applied to the consumption data, as described in *SEDR 1999* Appendix G. Therefore, expenditures for motor gasoline are not revised, although the recalculations with the new factors cause small changes in the fourth

and fifth decimal places of the full-precision data, which can be seen only in the data files available from EIA's internet site. Motor gasoline expenditures in the District of Columbia and Maryland are the exceptions and are revised by as much as 9 percent for the District of Columbia and by 6 percent for Maryland in 1994 due to the revised price estimates described above.

### **Other Petroleum Products**

**Petrochemical Industry Feedstocks, Special Naphthas, Waxes, and Miscellaneous Petroleum Products, Industrial Sector, 1996 and 1997.** Although there are no revisions to prices, revisions to the consumption estimates described in the *SEDR 1999* Appendix G cause revisions to expenditures by all States in 1996 and 1997 for waxes, special naphthas, petrochemical feedstocks, and miscellaneous petroleum products. These petroleum products are not shown separately in *SEPER* tables, but are presented combined in the "Petroleum, Other" column in each industrial sector table. The size of the changes in the combined expenditures of these products range from revisions as large as a decrease in West Virginia from \$309 million to \$56 million and an increase in New Hampshire from \$4 million to \$56 million to revisions too small to be seen in a number of States' tables. These small revisions can be seen in the unrounded data in the data files available from the EIA's internet site. Although prices for the individual petroleum products do not change, the consumption-weighted State averages for these products are revised by the changes in quantities. Therefore, revisions in "Petroleum, Other" average prices are as large as Arizona's change from \$17.16 per million Btu to \$6.47 per million Btu and Minnesota's revision from \$10.20 per million Btu to \$14.85 per million Btu and as small as the fraction-of-a-penny revisions to Ohio's prices, which are too small to be seen in *SEPER* tables. Because the same series was used to allocate consumption of these petroleum products to each of the States in 1996 and 1997, the revisions in expenditures and average prices in 1997 are similar in size and proportion to the 1996 revisions.

**Petroleum Coke, Industrial Sector, 1995 through 1997.** Although there are no price revisions for petroleum coke, small revisions to aluminum ingot production series affect consumption estimates, as described in *SEDR 1999* Appendix G, and therefore, cause small revisions in expenditures. The revisions are too small to be seen in *SEPER* tables, but

they are evident in the full-precision data files available from the EIA internet site, <ftp://ftp.eia.doe.gov/pub/state.prices/data/>.

### **Residual Fuel**

**Electric Utilities and Transportation Sector, 1997.** Prices paid by electric utilities for residual fuel in 1997 are revised for Alaska from \$3.07 to \$2.80 per million Btu and for California from \$2.16 to \$3.48 per million Btu, causing proportional revisions in those States' residual fuel expenditures. These two revised prices cause the U.S. average price and expenditures for electric utilities' residual fuel to be revised by amounts too small to be seen in *SEPER* tables.

Electric utilities' residual fuel prices are used in the estimation of transportation sector prices. Alaska and California electric utility price revisions cause the transportation sector prices to change from \$3.03 per million Btu to \$2.77 per million Btu in Alaska and from \$2.08 per million Btu to \$3.36 per million Btu in California. All other States' transportation residual fuel prices and expenditures are revised by less than 0.1 percent.

### **Wood and Waste**

**Residential Sector, 1980 and 1990 through 1997.** Although there are no revisions to State residential wood price estimates in this edition of *SEPER*, revisions to the residential sector wood consumption estimates, as described in *SEDR 1999* Appendix G, cause all States' estimated residential wood expenditures in 1980 to increase by 0.1 percent. Consumption estimate revisions also cause revisions to estimated expenditures in many States in 1990 through 1996 by quantities too small to be seen in *SEPER* tables, although they may be noticed in the data files available from EIA's internet site. The consumption and, therefore, expenditure revisions for many States in 1997 are large enough to be seen in *SEPER* tables and also cause the U.S. average price of residential wood to be revised from \$3.29 per million Btu to \$3.23 per million Btu.

**Commercial Sector, 1980 and 1985 through 1997.** Estimates of commercial sector wood prices and expenditures are included for the first time in this *SEPER* for 1985 through 1992. Consumption estimates for those years had previously been unavailable. Although there are no

revisions to State commercial sector wood price estimates in this edition of *SEPER*, revisions to the commercial wood consumption estimates, as described in *SEDR 1999* Appendix G, cause all States' estimated commercial wood expenditures in 1980 to increase by 0.1 percent. Consumption estimate revisions also cause estimated expenditures to be revised in many States in 1993 through 1996 by quantities too small to be seen in *SEPER* tables, although they may be noticed in the data files available from EIA's internet site. The consumption and, therefore, expenditure revisions for many States in 1997 are large enough to be seen in *SEPER* tables and also cause the U.S. average price of commercial wood to decrease by 2 percent.

**Industrial Sector, 1980 forward.** Estimates of wood and waste prices and expenditures in the industrial sector are revised for all States in all years 1980 forward. Expenditure estimates are directly affected by the consumption revisions described in *SEDR 1999* Appendix G. State prices for wood and waste are also affected by the consumption revisions because the proportions of the different types of wood and waste, which have different prices, cause the consumption-weighted average price for each State to change. Consumption estimates, and consequently prices and expenditures, are revised to zero for Kansas in 1980 through 1985, Nebraska in 1986 through 1995, Nevada in 1990 through 1997, Rhode Island in 1980 through 1988, and Wyoming in 1996 and 1997. North Dakota's industrial wood and waste consumption is revised from zero to small quantities in 1986 through 1993, which adds small expenditures to the industrial sector. Most industrial sector wood and waste price revisions are by less than \$0.50 per million Btu. The largest price revisions occur in 1989 when the Hawaii price increases from \$0.79 per million Btu to \$2.11 per million Btu and the Rhode Island price decreases from \$3.00 per million Btu to \$1.12 per million Btu. Most revisions to State industrial wood and waste expenditures are by less than \$10 million. The largest increase occurs in Georgia in 1997 where industrial expenditures for wood and waste increase from \$66 million to \$109 million, and the greatest decrease occurs in Wisconsin in 1995 where expenditures are revised from \$87 million to \$21 million.

**Electric Utilities, 1996 and 1997.** There are small revisions to expenditures for wood and waste by electric utilities in 1996 and 1997 due to revised factors for converting kilowatthours of electricity generated from wood and waste to British thermal units as described in *SEDR 1999* Appendix G. Revisions in the 10 States with electric utility use of wood and waste are too small to be seen in *SEPER* tables, but can be noticed



in the data files available from EIA's internet site. After a review of prices for 1997, the Wisconsin price is increased from \$0.42 to \$0.46 per million Btu, which causes the U.S. average price for electric utilities' wood and waste to be increased by 1 cent per million Btu.

## Nuclear Electricity

The method of calculating nuclear fuel prices and expenditures is revised for all years to accommodate nuclear electricity use by nonutility power producers. The new method causes prices and expenditures to be revised in a few States in intermittent years by 1 or 2 in the fifth decimal place of the full-precision data. These revisions can only be seen in the data files available from EIA's internet site.

## Consumption Adjustments for Calculating Expenditures

Consumption data used in calculating expenditures are generally those published in *SEDR 1999*. However, some consumption estimates are adjusted to remove petroleum refineries' process fuel, intermediate petroleum products, natural gas processing fuels, and other consumption that has no direct fuel costs, i.e., hydroelectric, geothermal, wind, solar and photovoltaic energy sources, and some wood and waste.

These adjusted consumption data are illustrated in Tables A51 and A52 of the *SEPER* documentation titled "Section 7. Consumption Adjustments for Calculating Expenditures." All of the adjusted consumption values are included in the data files available from EIA's internet site.

**Petroleum Coke, Industrial Sector, 1970 through 1997.** The method of estimating petroleum coke used at refineries was revised for all years as described in *SEDR 1999* Appendix G. Although the revised quantities can be seen in the data in EIA's internet data files, no industrial sector expenditures are affected because all quantities are removed before the expenditures are calculated.

**Wood and Waste, Residential, Commercial, and Industrial Sectors, 1980 through 1997.** In addition to the revisions in the wood and waste data described above, the estimates of the portions of wood and waste that are obtained at no cost are also revised for most States in 1980 through 1997. These revisions affect expenditures estimates and are reflected in the revised expenditures for wood and waste in the residential, commercial, and industrial sectors described above.

**Geothermal, Wind, Solar, and Hydroelectric Power, All Sectors, 1989 through 1997.** Consumption revisions to these data sources are described in *SEDR 1999* Appendix G and can be seen in the *SEPER* data files available on EIA's internet site. However, none of these consumption estimate revisions affect *SEPER* expenditures because it is assumed that these energy sources are obtained at no cost, and they are not included in the expenditure calculations.